SONY

VIDEO CASSETTE RECORDER Beta

SL-C20E

OPERATING INSTRUCTIONS page 2

Before operating the unit, please read this manual thoroughly, and retain it for future reference.

MODE D'EMPLOI page 20

Avant la mise en service de l'appareil, lire attentivement ce mode d'emploi et le conserver pour toute référence ultérieure.

BEDIENUNGSANLEITUNG Seite 38

Lesen Sie vor der Inbetriebnahme des Videorecorders diese Bedienungsanleitung sorgfältig durch, und bewahren Sie sie zum späteren Nachschlagen gut auf.

GEBRUIKSAANWIJZING blz. 56

Lees de gebruiksaanwijzing aandachtig door alvorens het apparaat in gebruik te nemen. Bewaar de gebruiksaanwijzing voor eventuele naslag.

This machine can be used with any video cassette having the mark Beta.
Ce magnétoscope accepte toutes les cassettes vidéo portant le label Beta.
In diesem Gerät können ausschließlich mit der Markierung Beta versehene Videocassetten verwendet werden.
Deze recorder kan gebruikt worden met elke videocassette met het merkteken Beta.

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English

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

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BEFORE OPERATING

PRECAUTIONS

On safety

- This unit operates on 220 V ac, 50/60 Hz.
- Should any solid object or liquid fall into the cabinet, turn off the unit and have it checked by qualified personnel before operating it any further.
- To disconnect the mains lead (ac power cord), pull it out by the plug. Never pull the lead itself.

On installation

- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation grille.
- Do not install the unit near heat sources such as radiators or air ducts or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Do not install it in an inclined position.
- Keep the unit and cassette tapes away from equipment with strong magnets, such as a microwave oven, large loudspeakers, etc.

On operation

- When the unit is not to be used for a long period, turn the power off to conserve energy and to extend the useful life of your unit.
- Remove and store video cassettes after recording or playback.

On cleaning

Clean the cabinet, panel and controls with a dry soft cloth. Do not use a moistened cloth or any type of solvent, such as alcohol or benzine, which might damage the finish.

On repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

On colour broadcasting systems

This machine is designed to record and playback using the PAL colour standard. Recording and playback of video sources based on other colour systems cannot be guaranteed.

If you have any questions about this unit, contact your Sony dealer.

PREPARATION

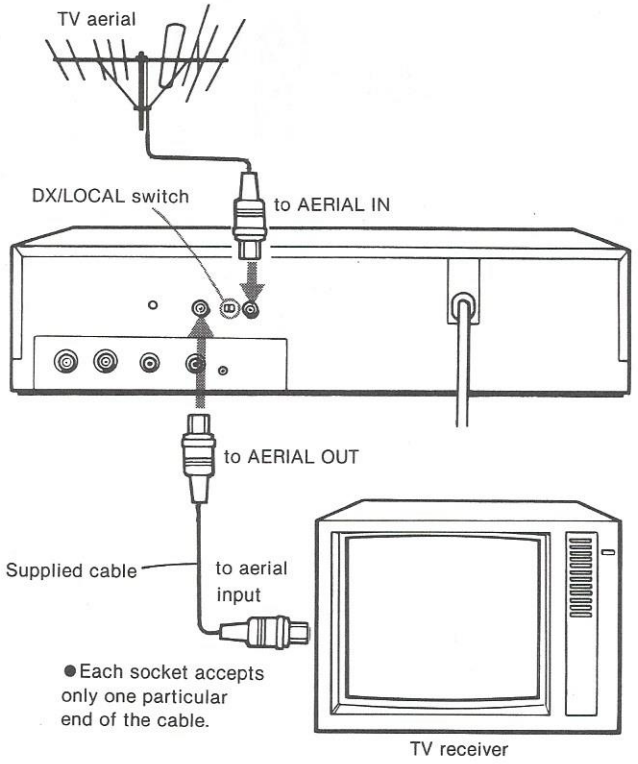
CONNECTIONS

Notes

- Unplug each unit from the mains outlet before making the following connections.
- Make sure the connections are secure. A loose connection may cause a noisy picture.

CONNECTING A TV

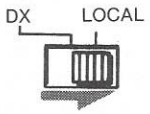
1 Remove the aerial cable from its socket in the back of the TV. Then connect the aerial cable to the AERIAL IN socket at the rear of the recorder.
2 Connect the aerial input of the TV to the AERIAL OUT socket of the recorder, using the supplied cable.
3 Connect the recorder and the TV to the mains supply with their own mains leads.
4 Turn on the power of each unit.



Now the recorder is set up to intercept all signals from the aerial on their way to the TV. The recorder then passes on the signals to the TV. This is why you can record a programme while it is being shown on the TV, or while the TV is showing another programme, or even when the TV is turned off.

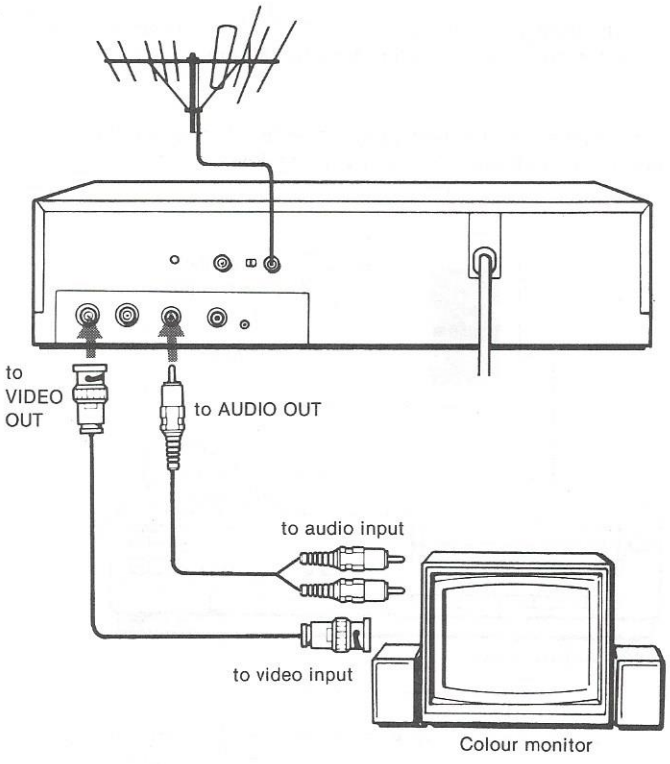
Notice for customers in a strong signal area

The recorder has a booster to assure stable TV reception. However, in areas near TV stations, where the TV signal is very strong, the picture may be affected by the booster. If this happens, set the DX/LOCAL switch on the rear panel to LOCAL.



CONNECTING A COLOUR MONITOR

To obtain a higher-quality picture, connect the unit to a colour monitor, such as the Sony Profeel colour monitor, instead of a conventional TV. The aerial should be connected to the recorder in the same way as a conventional TV.
When using a colour monitor, the following "Adjusting the TV" is not necessary.



ADJUSTING THE TV

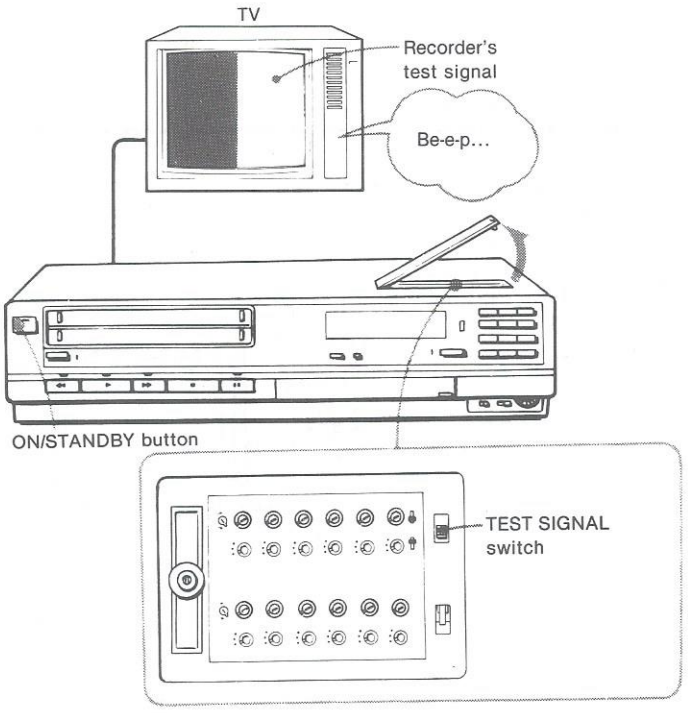
One of the television channels must be adjusted to receive the signal from the recorder.

1 After making the connections, press the ON/STANDBY button.
2 Make sure that the recorder is in the stop mode.
3 Set the TEST SIGNAL switch in the tuning compartment of the recorder to ON.
4 Turn on the TV and select a channel which is not being used to receive a TV station. Tune the channel until you see a clear black and white pattern on the TV screen and you hear a continuous tone. This is the recorder's test signal.
● Note that the test signal is transmitted on a channel between UHF channels 30 and 39.

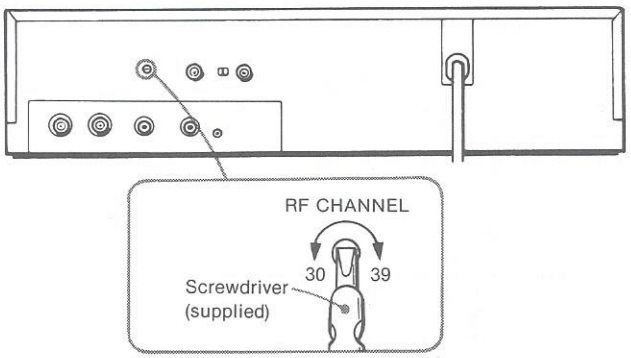
If the test picture is free of disturbance, the TV adjustment is complete. Set the TEST SIGNAL switch to OFF.
If the test picture is not free of disturbance, proceed with the next adjustment.

> Whenever you use the video recorder, you should set the TV to the channel selected in this adjustment.

—If you are not sure how to adjust your TV, please refer to the TV's instruction manual or consult your dealer.

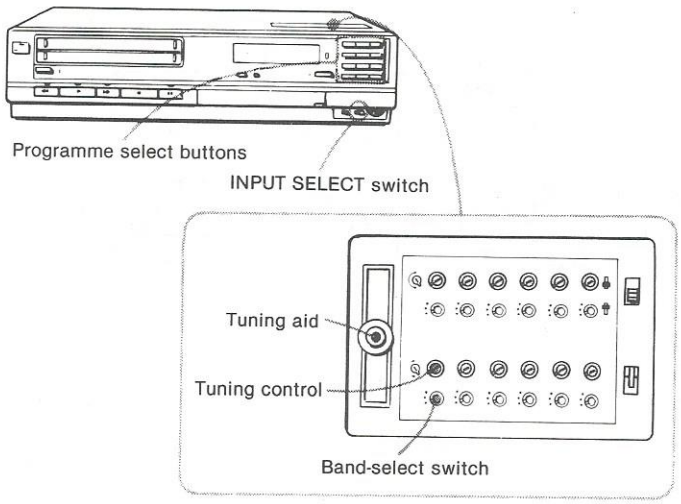


If the test picture is not free of disturbance
1 Reset the TEST SIGNAL switch to OFF.
2 Adjust the channel of the TV to a channel between UHF channels 30 and 39 with the tuning control or the fine tuning control on the TV, so that the TV screen shows no picture and so that a steady rustling sound or no sound is heard.
3 Set the TEST SIGNAL switch to ON again.
4 Slowly turn the RF CHANNEL screw on the back of the recorder with the supplied screwdriver, until you see an undistorted test picture on the TV screen.
5 Now the TV adjustment is complete. Reset the TEST SIGNAL switch to OFF.



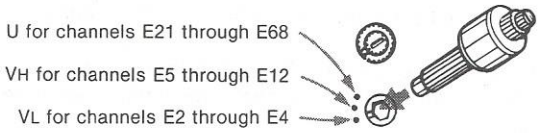
TV STATION PRESETTING

Once you have tuned your TV to the recorder, the next step is to tune the recorder to all the TV stations that you can receive in your area. Up to 12 TV stations can be preset in any order.

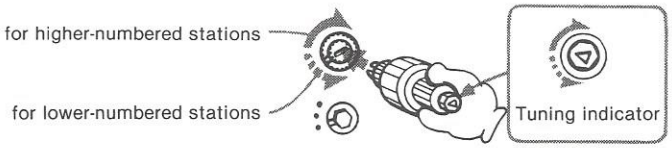


PRESETTING PROCEDURE

1 Set the INPUT SELECT switch to TUNER.
2 Press the programme select button to be preset.
3 Open the tuning compartment and, using the supplied tuning aid, set the band-select switch corresponding to the selected programme number to one of the three positions :



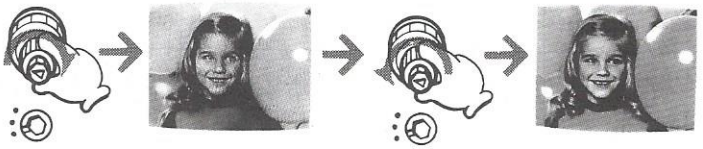
4 Using the other side of the tuning aid, turn the tuning control until the desired station is properly tuned in.
The indicator on the top of the tuning aid shows the approximate position in the selected band.



If you keep turning the tuning control clockwise, you will again get to the lowest-numbered station within that band.

When the picture appears, slowly turn the tuning control to the right until a herringbone pattern appears in the coloured part of the picture, then turn the control back until the picture is perfectly clear.

To identify the stations, consult a newspaper or TV programme guide.



5 Repeat steps 2, 3 and 4 for all the other stations.
6 Close the tuning compartment.
AFT (automatic fine tuning) circuit then locks in the signal and maintains a sharp picture.

After presetting the TV stations, you can use the programme select buttons of the recorder to tune in a station for viewing as well as recording.

CLOCK SETTING

When you connect the mains lead to a wall outlet, the clock indicates "0 : 00" with the two dots blinking.

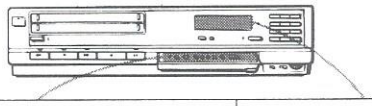
Example : To set the clock to 7 : 35 p.m. (19 : 35) on Tuesday*

*** Time indication**

AM				PM					
12:00 (midnight)	1:00		11:00	12:00 (noon)	1:00	2:00		10:00	11:00
0:00	1:00	.....	11:00	12:00	13:00	14:00	.....	22:00	23:00

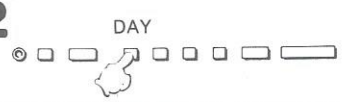
Day indication

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	2	3	4	5	6	7



1 CLOCK SET
SET/START

2 DAY



3 HOUR

4 10 MIN

5 MIN

6 CLOCK SET
SET/START

With the time signal, **press and immediately release, otherwise the clock will not start operating.**

If you press the CLOCK SET button for more than a second, clock adjustment will be required again.

The upper dot blinks for the first half of each minute, and the lower dot for the second half.

The DAY, HOUR, 10 MIN and MIN buttons can be pressed in two ways :

When you hold a button down, the digits will advance continuously until the button is released.

When you press and immediately release a button, the digits will advance by one.

Zero second adjustment

Press the CLOCK SET button quickly (less than a second).
While the upper dot is blinking, the clock is set to the time displayed 00 second. For example, if the clock time is 7 : 30, 20 seconds, it is set to 7 : 30, 00 second.
While the lower dot is blinking, the clock advances one minute and is set to the time displayed 00 second. For example, if the clock time is 7 : 30, 40 seconds, it is set to 7 : 31, 00 second.

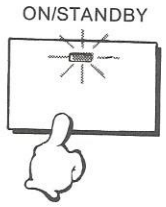
If you press the CLOCK SET button for more than a second, "0 : 00" blinks to show that the clock adjustment is required again.

When power has been interrupted for more than 3 minutes, the time indication "0 : 00" blinks, showing that the clock must be reset.
If power has been interrupted for less than 3 minutes, the displayed time remains correct.

OPERATION

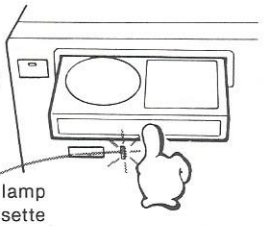
TV PROGRAMME RECORDING

1



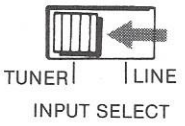
2

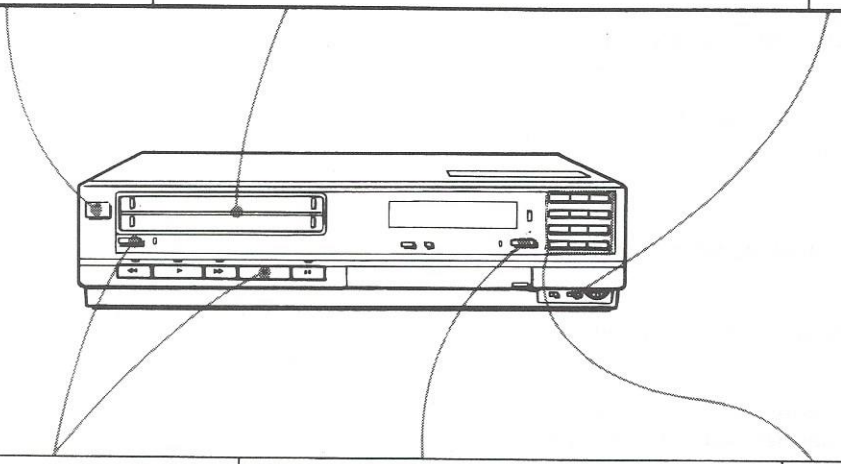
Insert the cassette with the round window to the left.



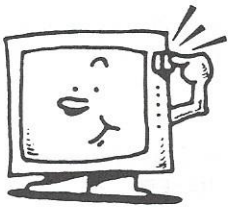
The CASSETTE INSIDE lamp will light up when a cassette is inside

3 Set INPUT SELECT switch to TUNER.

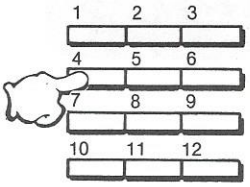




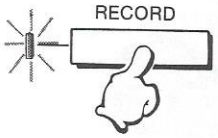
4 Turn on the TV and select the channel for the video recorder.



5 Select programme to be recorded.

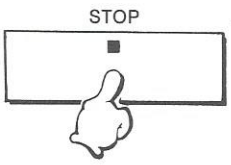


6

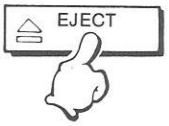


If the inserted cassette does not have the safety tab, or if the tape is at its end, the cassette will be automatically ejected.

7 **To stop recording**



To eject the cassette
Press after stopping the recording.



To stop recording momentarily
Press the ❚❚ PAUSE button. The lamp above the button will light. The TV programme can be seen on the TV, but the picture will not be recorded.
To resume recording, press the button again.
To protect the video heads and the tape, the pause mode will be automatically released after about 8 minutes and recording will stop.

When the tape reaches the end during recording, it will be automatically rewound to the beginning.

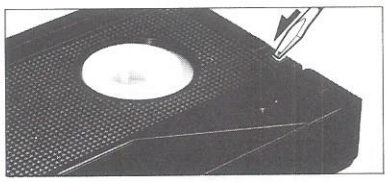
CAUTION
Television programmes, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provision of the copyright laws.

RECORDING ONE TV PROGRAMME WHILE VIEWING ANOTHER
You can enjoy one TV programme while recording another TV programme as follows :
1. Start recording the desired TV programme in the usual way.
2. Select the programme you want to view with the TV's programme selector.

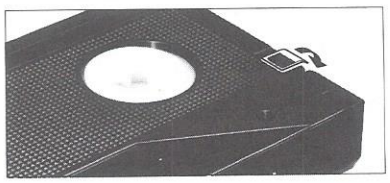
TO KEEP A RECORDED PROGRAMME FROM BEING ACCIDENTALLY ERASED.

When a new recording is made on a previously recorded cassette, the previous recording will be automatically erased.

To avoid erasing a recording
Break off the safety tab using a screwdriver or similar object.



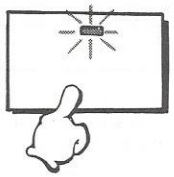
To re-record on a cassette which has had the safety tab removed
Cover the slot with a piece of plastic tape.



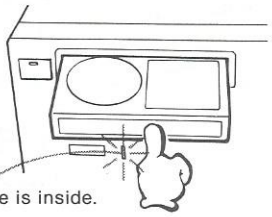
PLAYBACK

1

ON/STANDBY

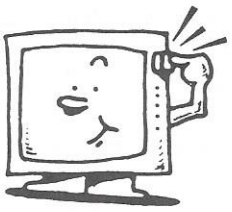


2 Insert the cassette with the round window to the left.



Lights when a cassette is inside.

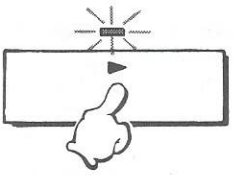
3



Turn on the TV and select the channel for the video recorder.

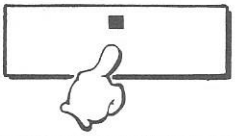
4

PLAY



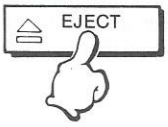
5 To stop playback

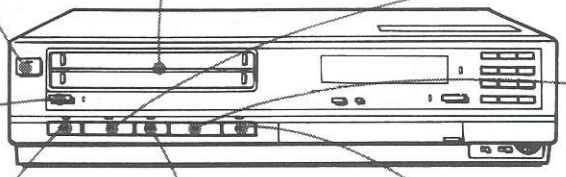
STOP



To eject the cassette

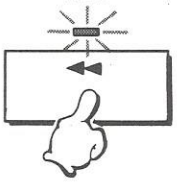
EJECT





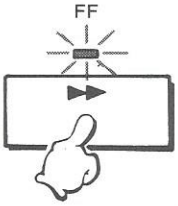
To rewind the tape

REW



To advance the tape rapidly

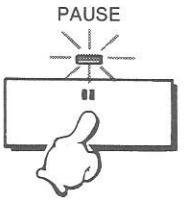
FF



When the tape reaches the end, it will be automatically rewound to the beginning.

To stop the playback momentarily

PAUSE

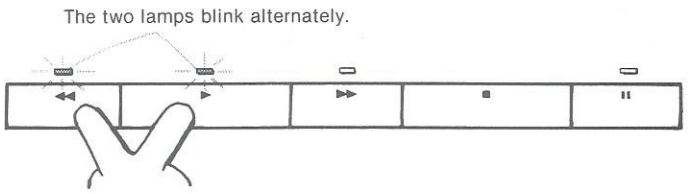


A still picture will be seen on the TV screen. To resume playback, press the button again. The pause mode will be automatically released after about 8 minutes and the playback will resume.

AUTO PLAY

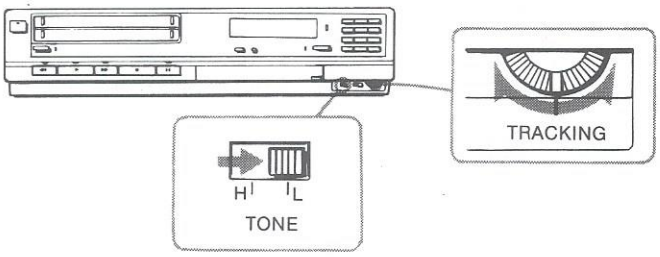
To playback from the beginning of the tape after rewinding

Press the ▶ PLAY button and ◀◀ REW button simultaneously in the stop mode. The lamps above these buttons blink alternately during rewinding.
After the tape is completely rewound, it will be automatically played back.



When playing back a tape recorded on another machine

If streaks or snow appears, adjust the TRACKING control for the best possible picture.
Return the control to the centre position after playing back the tape.

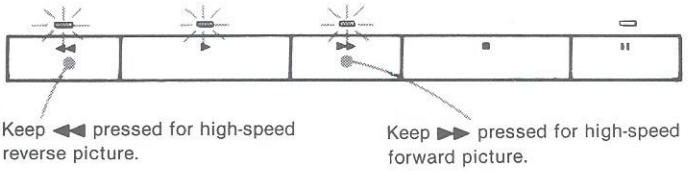


If the playback sound seems to have exaggerated high frequencies, set the TONE selector to L. Return the selector to the normal H position after playing back the tape.

TO SEARCH FOR A PARTICULAR SCENE

Picture search ...**Viewing the picture at a fast speed to find a particular scene**

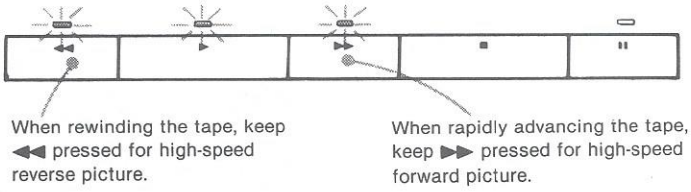
During playback



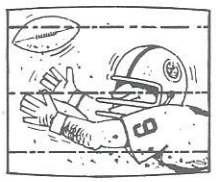
Release the button at the desired point.
Normal playback will resume.

The picture search mode can also be started directly from the pause mode.

Skip Scan ...**Viewing the picture momentarily during rewind or fast-forward**


When rewinding the tape, keep ◀◀ pressed for high-speed reverse picture.
When rapidly advancing the tape, keep ▶▶ pressed for high-speed forward picture.

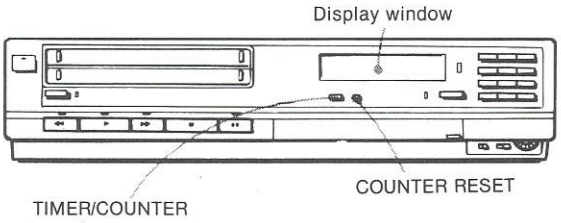
Release the button at the desired point.
The normal rewind or fast forward mode will resume.



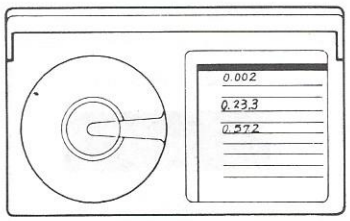
Streaks will appear during the picture search, the skip scan and the pause modes.

USE OF THE TAPE COUNTER

Turn on the power and press the TIMER/COUNTER button to display the counter reading in the display window.
To return the display to the present time, press the TIMER/COUNTER button again.



Before starting recording or playback, press the COUNTER RESET button to set the counter to "0000".
By noting the counter reading at the desired point, you can easily find that point later by referring to the counter.



Write the counter readings you want to remember on the label of the cassette.

Normal rewinding will stop at the tape counter's "0000" position.
To rewind the tape further, press the ◀◀ button again.
With automatic rewinding from the tape end or for "auto play", the tape will not stop at the counter's "0000" position.

Notes

- The counter reading is automatically reset to zero when a cassette is newly inserted.
- While the power is off, the display shows the present time, regardless of the TIMER/COUNTER setting.
- The counter reading will be retained in the memory even after the power is turned off, as long as the cassette is in the cassette compartment.
- The tape counter does not operate when a blank, unrecorded tape is played.

TIMER-ACTIVATED RECORDING

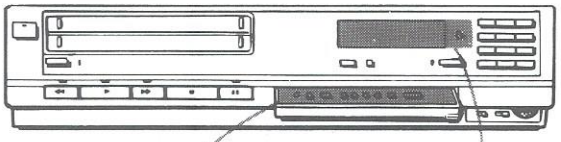
You can make one recording within 7 days even when you are not at home.

Check before setting the timer
- Is the clock set to the correct day and correct time?

Timer setting can only be made after the clock has been set.
- Is a cassette inserted in the recorder?
- Is the cassette long enough to record the programmes?
- Does the cassette have a safety tab on the bottom?
- Is the INPUT SELECT switch set to TUNER?

Note : The timer cannot be set during recording, playback, or when the INPUT SELECT switch is set to LINE (The "AU" appears on the display window.).

Example : To record a PROG 2 broadcast from 9 : 00 a.m. to 11 : 25 a.m. on Friday.



1 **Button to be pressed.**

TIMER SET

If the recorder is off, it will be turned on automatically.

Time display
The segment to be set will blink.

Turn-on indication

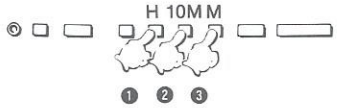
2 Select the turn-on day.

DAY

Indication changes as follows :
1234567 (everyday) → 1 (Monday) → 2 (Tuesday)... → 7 (Sunday)

3 Set the turn-on time.

H 10M M



4 Select the programme to be recorded.

PROG

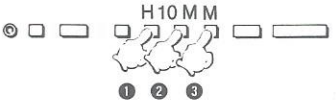
5 TIMER SET

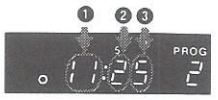
Turn-off indication

Blinks.

6 Set the turn-off time.

H10M M





7

TIMER REC

TIMER REC

Present day and time

TIMER REC lamp lights up and the power is turned off.
At the preset turn-on time, recording will start automatically and will stop at the preset turn-off time.

If the inserted cassette is at its end or does not have the safety tab, the cassette will be automatically ejected.

ONCE THE TIMER REC LAMP HAS LIT UP, NO FUNCTION OF THE RECORDER CAN BE ACTIVATED, except for checking the timer setting.
To operate the recorder after setting the timer for recording, press the TIMER REC button so that the TIMER REC lamp goes off. To reactivate the timer recording standby mode, be sure to press the TIMER REC button again.

To record to the end of the tape

Set the turn-off time to a time after the tape will reach its end.

If the tape reaches the end during the timer recording

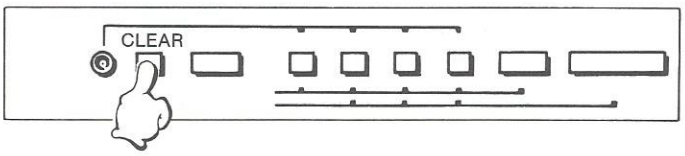
The recording will stop and the tape will be rewound to the beginning. Then after about a second, the recorder will be turned off.

To stop the on-going timer recording

Press the TIMER REC button so that the TIMER REC lamp goes off. The unit will be turned off automatically after about a second.

To erase the setting

1. Press TIMER SET button to display the setting of the timer.
2. Press CLEAR button. The memory of the timer will be erased.



When a power interruption occurs before or during timer recording

If a power interruption of more than 3 minutes has occurred, the time indication "0 : 00" will blink. This means that the memory of the timer has been completely erased. Set the clock and the timer again. In this case, the recording which had been in process will not resume.

If, after a power interruption, the clock still shows the correct time with the two dots blinking,
the interruption was less than 3 minutes.
In this case, the memory of the timer is retained and recording will be made. All you have to do is to press any one of the buttons in the timer-setting compartment to stop the blinking. The recording which had been in process before the interruption will resume.

TO CHECK THE TIMER SETTING

Press the TIMER SET button. Each time you press the button, the indication will change as follows :

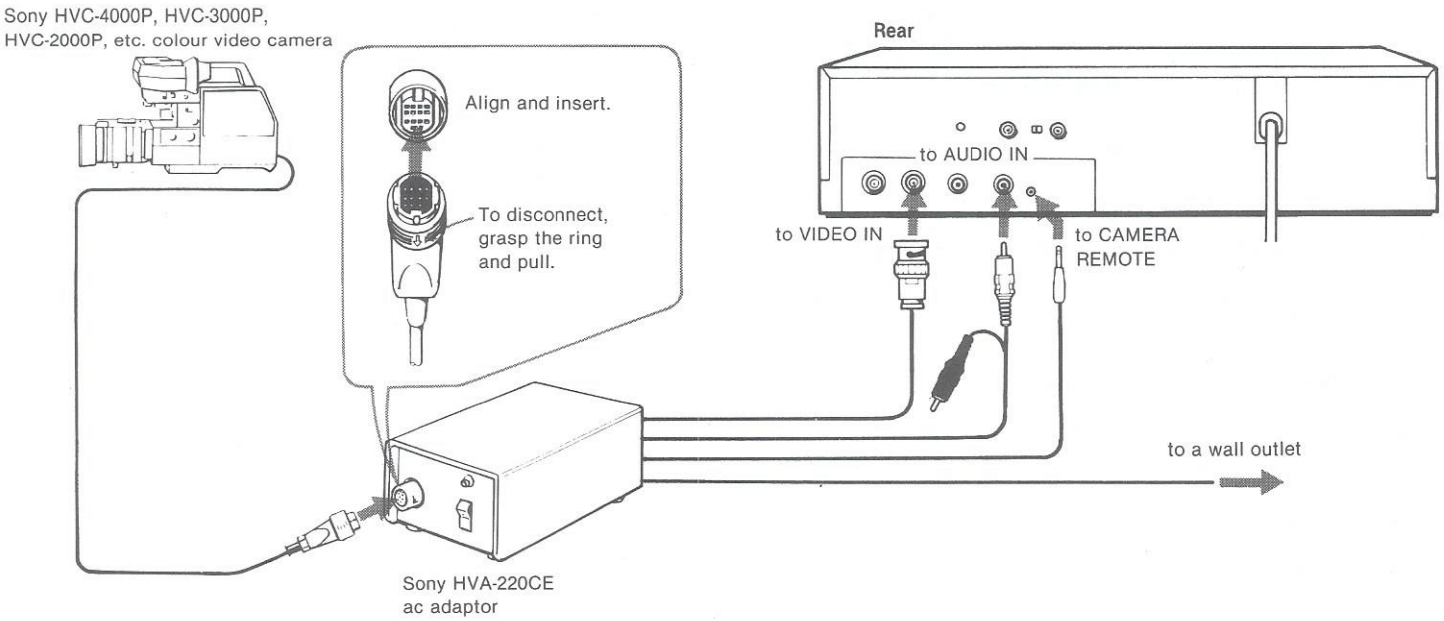
Turn-on day and time
↓
Turn-off day and time
↓
Present time

During actual timer recording, only the turn-off time can be checked.

CAMERA RECORDING...To produce your own programmes

CONNECTIONS

The camera must conform to CCIR PAL TV standards.



OPERATION

❶ Press the ON/STANDBY button to turn on the recorder and insert a cassette. Make sure that the INPUT SELECT switch is set to LINE.
❷ Turn on the power switch on the ac adaptor.
❸ Make the necessary adjustments on the camera. See the instruction manual furnished with the camera.
❹ Press the RECORD button. Recording will begin.
● If a camera with a tape run/stop button is used, you can momentarily stop recording and restart it using that button.
● If any other camera is used, use the ❚❚ button on the recorder to stop the recording momentarily and restart it.
❺ When the recording is finished, press the ■ button.

To view the picture being recorded on the TV screen
❶ Turn the connected TV on.
❷ Select the channel for the video recorder on the TV.
The picture being recorded will appear on the TV screen.
● If acoustic feedback (a whistle-like sound) is heard when the microphone sound is recorded, turn the microphone (or the camera, if the microphone is built into the camera) away from the TV or turn down the TV volume.

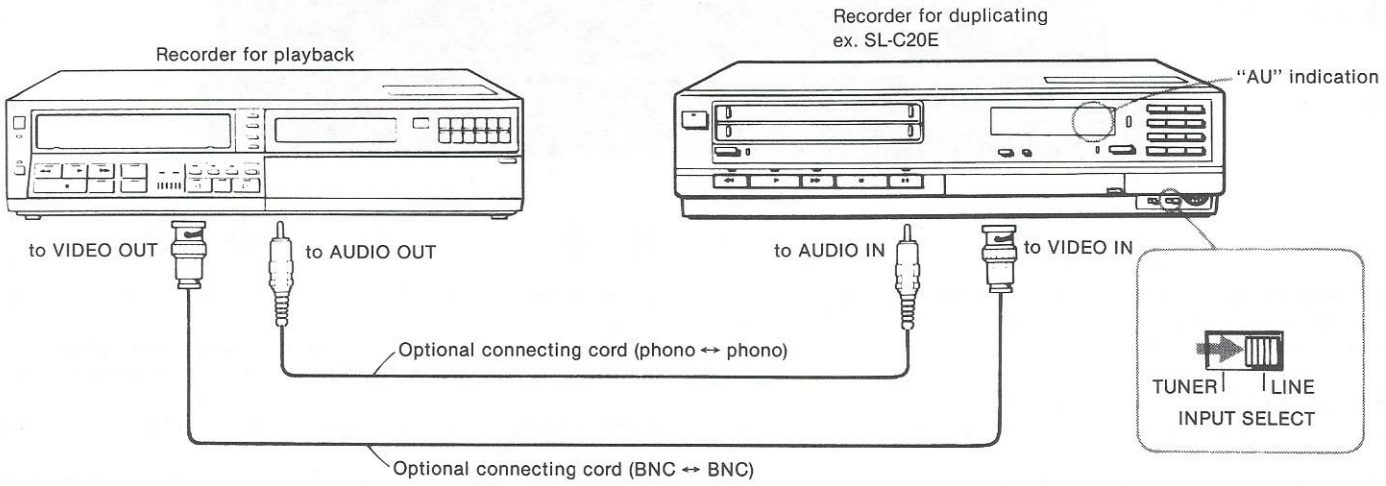
Note
If the input signal level from the VIDEO IN connector is more or less than the required level, you may see a distorted picture or hear a buzzing sound when you monitor the picture on a television or on a monitor screen during camera recording. However, the picture will still be properly recorded and can be played back without distortion.

To record the sound from other audio sources
Connect an audio source, such as a tape recorder, into the AUDIO IN jack.

TAPE COPY

To duplicate a tape, you will need two video recorders ; one is to play back the original tape and the other is to record.

1 Connect the recorders as illustrated.
2 Turn on both recorders.
3 Insert the original cassette into the recorder for playback.
4 Insert a blank cassette into the recorder for duplicating.
5 Set the INPUT SELECT switch of the recorder for duplicating to LINE.
6 Set the recorder for playback into the playback mode.
7 Set the recorder for duplicating into the record mode.

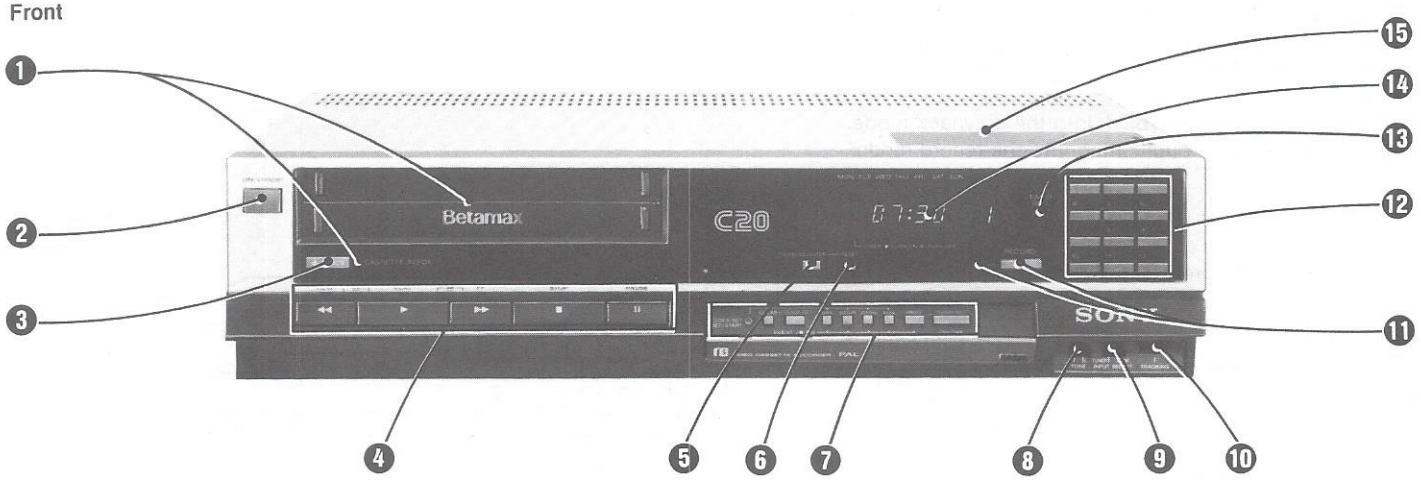


CAUTION
Television programmes, films, video tapes and other materials may be copyrighted. Unauthorized duplication of such material may be contrary to the provision of the copyright laws.

GENERAL

LOCATION AND FUNCTION OF CONTROLS

Front



❶ Cassette compartment and CASSETTE INSIDE lamp
Insert a cassette after turning on the recorder. The lamp lights up when a cassette is inside.

❷ ON/STANDBY button and lamp
Press to turn on the unit. The lamp will light up. Press again to turn it off.
The timer section will continue to operate and the time will be displayed even if the ON/STANDBY button is off so long as the ac power cord is connected to the wall outlet.

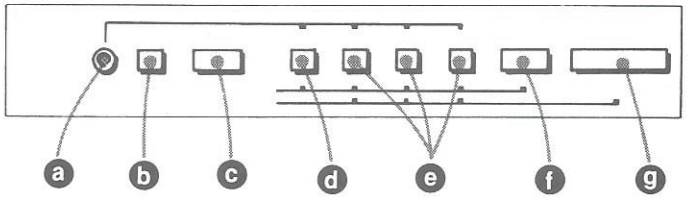
❸ EJECT button
Press to remove the cassette. This button does not function when the recorder is turned off.

❹ Function buttons
▶ PLAY button: Press to play the tape back.
◀◀ REW button: Press to rewind the tape. Also used for the reverse picture search and skip scan operation.
▶▶ FF button: Press to advance the tape rapidly. Also used for the forward picture search and skip scan operation.
■ STOP button: Press to stop the tape.
II PAUSE button: Press to stop the tape for a moment during recording or playback. A still picture will be seen during playback. Press again to release the pause mode.

❺ TIMER/COUNTER button
Press to set the display to the tape counter. To reset to clock, press it again.

❻ COUNTER RESET button
Press to set the tape counter reading to "0000".

❼ Timer setting section (behind the front panel)



ⓐ CLOCK SET button: Press to set the clock.
ⓑ CLEAR button: Press to clear the timer programme memorized.
ⓒ TIMER SET button: Press to set the turn-on/off time of a recording.
ⓓ DAY button: Press to set the turn-on day of a recording.
ⓔ HOUR, 10 MIN and MIN buttons: Press to set the turn-on/off time of a recording.
ⓕ PROG button: Press to select the TV programme to be recorded by the timer.
ⓖ TIMER REC button: Press to set the recorder in the timer recording stand-by mode.

❽ TONE select switch
Normally set to the H position. Set to L if the sound seems to exaggerate high frequencies during the playback of a tape recorded on another recorder.

❾ INPUT SELECT switch
Select the programme to be recorded.
LINE: for recording signals connected to the VIDEO IN and AUDIO IN jacks
TUNER: for recording TV programmes

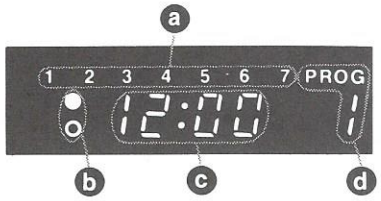
❿ TRACKING control
If streaks or snow appears during the playback of a tape recorded on another recorder, turn this knob to obtain the best possible picture.

⓫ RECORD button and lamp
Press to start recording. The lamp will light up.

⓬ Programme select buttons
Select the number of the programme to be recorded or to be viewed. The selected programme number will appear in the display window.

⓭ TIMER REC lamp
Lights when the TIMER REC button behind the front panel is pressed to set the recorder in the stand-by mode. It remains lit till the timer recording is finished.

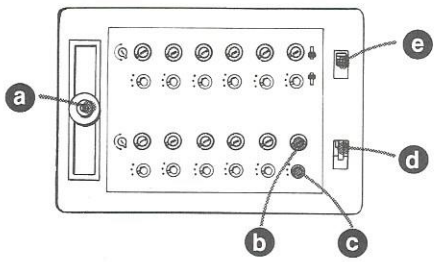
⑭ **Display window**



ⓐ **Day of the week indication:** Shows the day of the week on which the timer-activated recording will take place.
ⓑ **Turn-on and turn-off setting indications:** The "●" mark shows you are setting the turn-on time and the "O" mark shows the turn-off time.

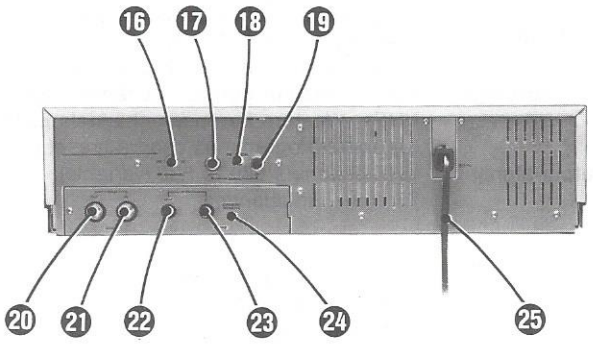
ⓒ **Time and counter display:** Usually shows the present time. When the TIMER/COUNTER button is pressed to COUNTER, the display shows the counter number.
ⓓ **Programme number:** Shows the programme number selected with the programme select buttons.
When the INPUT SELECT switch is set to LINE to record signals from the VIDEO IN and AUDIO IN jacks, the indication will change to "AU".

⑮ **Tuning compartment**



ⓐ **Tuning aid:** Use to select the band and to turn the tuning control. The indication at its end shows the approximate position within the selected band.
ⓑ **Tuning control:** With the supplied tuning aid, turn until the desired station is properly tuned in.
ⓒ **Band-select switch:** Using the supplied tuning aid, set to V_L (channels E2 through E4), V_H (channels E5 through E12), or U (channels E21 through E68) according to the channel to be tuned in.
ⓓ **AFT switch:** When the tuning compartment is closed, the automatic fine tuning circuit locks in the signal and maintains a sharp picture.
ⓔ **TEST SIGNAL switch:** Set to ON to obtain a test pattern.

Rear



⑯ **RF CHANNEL screw**
If there is interference on the factory preset channel for RF output and the signal of this recorder unit cannot be displayed clearly on the TV screen, adjust this screw with the supplied screwdriver.

⑰ **AERIAL OUT socket**
Connect the aerial input of the TV receiver using the supplied cable.

⑱ **DX/LOCAL switch**
Normally set this switch to DX. If the TV signal is very strong, set the switch to LOCAL.

⑲ **AERIAL IN socket**
Connect the aerial cable.

⑳ **VIDEO OUT jack (BNC type)**
Connect to the video input of another video cassette recorder or a video monitor.

㉑ **VIDEO IN jack (BNC type)**
Connect to the video output of a camera, another video cassette recorder, etc.

㉒ **AUDIO OUT jack (phono type)**
Connect to the audio input of a video monitor or a video cassette recorder.

㉓ **AUDIO IN jack (phono type)**
Connect to the audio output of a camera or another video cassette recorder.

㉔ **CAMERA REMOTE jack (special mini jack)**
For camera recording, connect an ac adaptor to this jack.

㉕ **AC mains lead**

SPECIFICATIONS

System

Video recording system	Rotary two-head helical scanning
Video signal	CCIR standards, PAL colour
Aerial input	75-ohm, asymmetrical aerial socket
Channel coverage	VHF : Western European channels E2-12 UHF : Western European channels E21-68 (Up to 12 programmes can be preset.)
RF output signal	UHF channels E30 to E39 (variable) 75 ohms, unbalanced

Video

Input	VIDEO IN : BNC connector 1.0 V $^{+1.0}_{-0.5}$ V (p-p) 75 ohms, unbalanced, sync negative
Output	VIDEO OUT : BNC connector 1.0 V (p-p) ±0.1 V (p-p) 75 ohms, unbalanced, sync negative
Horizontal resolution	260 lines
Signal-to-noise ratio	Colour : Better than 40 dB B/W : Better than 43 dB

Audio

Input	AUDIO IN : phono jack 47 kilohms, −10 dBs (0 dBs = 0.775 V rms)
Output	AUDIO OUT : phono jack Load impedance less than 10 kilohms −10 dBs with 47 kilohms load, unbalanced
Frequency response	50 Hz to 10 kHz
Signal-to-noise ratio	40 dB
Audio distortion	Less than 4% at 400 Hz

Tape transport

Tape speed	18.73 mm/sec.
Maximum recording time	2 hours 10 min. (with Sony L-500 cassette) 3 hours 15 min. (with L-750)
Fast forward/rewind time	Within 5 min. (with L-500)

Timer

Clock	Crystal lock
Time indication	24-hour cycle
Timer setting	Only for recording 1 event/week, adjustable for any day or for all 7 days of the week
Power back-up	Back-up duration of 3 minutes minimum at one time

General

Power requirements	220 V ac ±10%, 50/60 Hz
Power consumption	38 W
Storage temperature	−20°C to +65°C (−4°F to +149°F)
Operating temperature	5°C to 40°C (41°F to 104°F)
Dimensions	Approx. 430 × 105 × 360 mm (w/h/d) (17 × 4¼ × 14¼ inches) including projecting parts and controls
Weight	Approx. 10 kg (22 lbs 1 oz) net

Accessories supplied

75-ohm coaxial cable for recorder to TV connection 1
RF channel adjustment tool 1

Design and specifications subject to change without notice.

TROUBLE CHECKS

If any difficulty should arise during operation, check through this list of symptoms and possible causes. Should the difficulty persist, unplug the unit and contact the dealer from whom this unit was purchased, or local Sony authorized dealer.

Before going through the check list below, first check to see whether the mains lead is connected firmly to a working outlet and whether the ON/STANDBY button is turned ON.

	Symptom	Possible causes and corrections
POWER	ON/STANDBY button does not function.	● The mains lead is disconnected. ● The recorder is in the timer standby mode. Press the TIMER REC button so that the TIMER REC lamp goes off.
CLOCK AND TIMER	The clock has stopped at "0 : 00".	● There has been a power interruption. Reset the clock and timer.
	Timer setting cannot be made.	● The clock time is not set.
	The tape counter does not operate even if the tape moves.	● The tape is brand-new. ● It will not operate with the unrecorded portion of a tape.
	The tape counter is not displayed even if the TIMER/ COUNTER button is pressed.	● The recorder is turned off. ● The clock does not operate because the CLOCK SET button has not been pressed at the end of the clock adjustment. ● The recorder is in the timer setting mode. (TIMER SET button has been pressed to set the turn-on/off time.) Turn the recorder off and then on again.
TV RECEPTION	TV programme is not clearly displayed on the TV screen.	● The channel for video recorder on the TV receiver is not correctly tuned. ● The channels on the recorder are not correctly preset. (See "TV station presetting".) ● The aerial connections are not correct. ● The TV signal is weak. Adjust the direction of the aerial. ● The mains lead of the recorder is disconnected.
RECORDING AND PLAYBACK	No picture on the TV screen during recording or playback	● The TV's channel is not set to that preset for the video recorder. ● The station preset for the video recorder has not been fine-tuned.
	The cassette is ejected when REC button is pressed.	● The safety tab on the cassette has been removed.
	The desired programme has not been recorded.	● The INPUT SELECT switch has not been set correctly.
	The displayed picture on the TV screen is not clear.	● The channel preset for the video recorder on the TV has not been fine-tuned. ● The video heads may be contaminated. Clean the heads using the Sony L-25CL video head cleaning cassette. For details on cleaning, refer to the instructions furnished with the cleaning cassette. If the L-25CL cleaning cassette is not available in your area, have the heads cleaned at the nearest Sony service facility. ● The cassette being played has been recorded on another video recorder. Adjust the TRACKING control.
	Timer recording cannot be made correctly.	● The clock time is not set correctly. ● The turn-on day and the turn-on time have not been set correctly. ● The TIMER REC button has not been pressed. ● There has been a power interruption. ● The INPUT SELECT switch is set to LINE.
OTHERS	The function buttons cannot be activated.	● The tape is at either end of its transport. ● If the CASSETTE INSIDE lamp is blinking when loading or unloading the cassette, the safety device has been activated. Press the EJECT button to remove the cassette, then insert it again.
	Cassette cannot be inserted	● The recorder is turned off. ● The casette being inserted is reversed. ● Another cassette has already been inserted.
	The cassette cannot be ejected.	● The recorder is turned off. ● The tape is moving.
	The tape stops suddenly during operation.	● The safety device which protects the video cassette tape and recorder has activated. Reactivate the previous tape transport mode.

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